

AMENDMENTS TO THE SPECIFICATION:

Please amend the Specification as follows:

Page 11, paragraph beginning at line 12:

As shown in Fig. 3, the substrate [[S]] 11 to be processed is conveyed onto a wafer stage 31 positioned within the film-forming chamber 3 and then the stage is raised till the distance between the shower head and the substrate reaches the predetermined level (S/S distance in general ranging from about 15 to 50 mm). The substrate [[S]] 11 transported to the stage 31 is heated from room temperature to the film-forming temperature since the stage is heated by a heating means. The overall time required for heating the substrate from room temperature to the film-forming temperature and for stabilizing the latter is in general about 4 minutes.

After the temperature of the substrate is stabilized, a raw gas (real gas) vaporized by the vaporizer 23 (see Fig. 2) and a reactive gas (for instance, O₂ gas) are introduced into a gas-mixing chamber 24 and the resulting gas mixture having a desired mixing ratio is fed to the region above the substrate [[S]] placed on the stage 31 in the film-forming chamber 3 through a gas-supply port 24a and the shower head 25 to thus initiate the formation of a film.

Page 12, paragraph beginning at line 2:

After the film-forming procedures are continued till a film having a desired thickness is formed, the introduction of the gas mixture is interrupted, the stage 31 is brought down to a level at which the substrate [[S]] can be delivered to the conveyer

chamber 4 and the substrate [[S]] thus processed is conveyed from the film-forming chamber 3 to the conveyer chamber 4 to thus recover the substrate [[S]]. This conveyer chamber 4 has been subjected to pressure control as previously discussed above.

As has been described above, the MOCVD apparatus as shown in Fig. 3 comprises a gas-mixing chamber 24, a film-forming chamber 3 connected to the gas-mixing chamber 24 and a shower head 25 disposed on the top face of the film-forming chamber, wherein a stage 31 for placing a substrate S to be processed is arranged within the film-forming chamber 3 in such a manner that it is opposed to the shower head 25. The film-forming apparatus having such a structure permits the preparation of a thin film on the substrate S by the introduction of a gas mixture prepared in the gas-mixing chamber 24 into the film-forming chamber 3 through the shower head 25. An outlet (also the gas supply port) 24a for the gas mixture (a port for supplying the shower head with the gas mixture) is positioned at a peripheral portion on the bottom of the gas-mixing chamber 24 so that the gas mixture prepared in the gas-mixing chamber 24 and fed to the shower head 25 flows from the outer or external periphery (marginal portion) of the shower head towards the center thereof on the upper face of the head.

Page 13, paragraph beginning at line 28:

In addition, in the present invention, it is preferred that the gas injection diameter of the shower head 25 is at least equal to or higher than the diameter of the substrate [[S]] to be processed in order to achieve the uniform distributions of various physical properties on the wafer surface. Incidentally, the shower head 25 used herein

is one having a desired diameter in proportion to the size of the substrate to be processed, but it is also possible to use a shower head, which is so designed that the superfluous gas injection holes 25a can be closed to obtain a desired gas-injection diameter depending on the size of the substrate to be processed. More specifically, the shower head 25 can be designed in such a manner that the diameter (gas-injection diameter) thereof may freely be controlled.

Page 16, paragraph beginning at line 11:

As has been discussed above in detail, the thin film-forming apparatus according to the present invention is designed in such a manner that a gas-supply port for supplying a gas mixture prepared in a gas-mixing chamber to a shower head is arranged at the peripheral portion on the bottom face of the gas-mixing chamber so that the gas mixture from the gas-mixing chamber flows from the upper peripheral region of the head towards the center thereof and the apparatus is further so designed that an exhaust port for discharging the exhaust gas generated in the film-forming chamber is arranged at a position lower than the level of a stage during film-forming operations to thus direct the exhaust gas generated in the film-forming chamber towards the side wall of the chamber and to discharge the exhaust gas through the exhaust port disposed on the side wall thereof. ~~The apparatus is further designed as specified in the claims of the present invention.~~ Accordingly, when a film is prepared, the apparatus of the present invention can substantially improve the uniformity of the distributions of, for instance, the film thickness, film quality and film composition on the wafer surface.

Page 18, paragraph beginning at line 25:

After the substrate [[S]] to be processed is transported to the wafer stage 31 arranged within the film-forming chamber 3, then, as shown in Fig. 3, the stage is ascended by the action of the means 33 for going the stage up and down till the shower head-substrate distance (S/S distance ranging from 15 to 45 mm) reached its predetermined level. The substrate [[S]] transported to the stage 31 was heated from room temperature to a temperature used for film-formation (600°C) by the sensible heat from the stage 31, which was heated by a heating means. In this respect, it was found that the overall time required for raising the temperature of the substrate from room temperature to the film-forming temperature and for stabilizing the film-forming temperature was on the order of 4 minutes.

Page 19, paragraph beginning at line 14:

After the film-forming operation was continued till the thickness of the resulting film reached a predetermined level, the introduction of the gas mixture was interrupted, the stage 31 was then descended to the level capable of delivering the substrate [[S]] to the conveyer chamber 4 and the substrate [[S]] thus processed was transported from the film-forming chamber 3 to the conveyer chamber 4 to thus recover the substrate. The pressure of the conveyer chamber 4 was controlled in the same manner used above.

Page 19, paragraph beginning at line 25:

Thus, it was confirmed that the apparatus or the foregoing method permitted the continuous formation of films, on substrates [[S]], each having a uniform thickness, which had a uniform plane distribution on the wafer surface. This would in turn lead to the improvement of the yield of semiconductor chips.